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TI Yeast vector expressing cytochrome P450 and NADPH-dependent reductase - useful for hydroxylation of long chain alkane(s) and fatty acids.
DC D16 E17
IN KAERGEL, E; KAMINSKI, K; MAUERSBERGER, S; SCHELLER, U; SCHUNCK, W; ZIMMER, T
PA (DELB-N) DELBRUECK CENT MOLEKULARE MEDIZIN MAX
CYC 19
PI WO 9627678 A1 960912 (9642)* DE 22 pp C12P007-02
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AB WO 9627678 A UPAB: 961021
Hydroxylation of long chain alkanes, fatty acids and other alkyl cpds. comprises treatment with a monooxygenase system comprising cytochrome P450 (I) and NADPH-cytochrome P450-reductase (II). Also new is a vector for genetic modification of Saccharomyces based on the YEp51 vector and contg.: (a) DNA for (II) between SalI and BamHI restriction sites; and (b) a second expression cassette (at a NruI site) contg. the GAL10 promoter, (I)-encoding sequence and the ADH7 terminator.

USE - The method is esp. used to oxidise fatty acids,producing partic. hydroxy-fatty acids and long chain dicarboxylic acids.

ADVANTAGE - Oxidn. of the substrate is regioselective (hydroxylation at (sub) terminal C, with further oxidn. if the process is continued) and provides good yields in a simple procedure. Hydroxylation is much (e.g. 20 times) quicker than in systems contg. (I) only.

Dwg.0/4
FS CPI
FA AB; DCN
MC CPI: D05-H12E; E10-C02D2; E10-C04D4; E10-C04D5; E11-M